Notebook, N-10-07-23

DATE | TIME | MIN. | AMP'S

July 23, 1910

A6 Cells #210, #231 & #239

Cells taken from the Greyhound Truck and received at Laboratory July 22, 1910.

These cells have had a service of 17,000 miles to date. Their solutions were changed and renewed on March - 1910.

Cells #210 & #239 have been refilled once since being in service.

Cell #231 had been refilled once since being in service but developed a leak at E.B. Factory so was recanned and filled with 21% KOH + 11.2 g. $LiOH$ per liter.

Cells returned charged August 10, 1910.

DATE | TIME | MIN. | AMP'S

July 23, 1910

A6 #4931

Cell was taken from one of the Adams Ex. Co's., trucks - Ormand Pl., Brooklyn where it had been in regular service about 7 months. (Shipped from E.S.B. factory, Dec. 28-'09

This cell was taken to test its electrolyte, as it was thought that ordinary drinking water had been used regularly for filling.

Fresh solution - 21% KOH + 11.2 g $LiOH$, put in at factory, when cell was received from Brooklyn. After standing several days the solution was changed again, renewed with 21% KOH + 20 g. $LiOH$ at the laboratory.

A III

DATE	TIME	MIN.	AMP'S	Volts				Temps				Sp.G
				210	231	239	4931	210	231	239	4931	
	P.M.			Discharge								
7/24/10	8.45	-	on									
	50	0	45	128	126	126	121					
	52	2	"	1245	1245	1242	1205					
	55	5	"	1237	124	1237	1197					
	9.00	10	"	1217	122	1217	1187					
	15	25	"	1195	120	1197	115					
	20	30	"	119	120	1197	1145	925	935	925	945	
	30	40	"	118	1155	1182	1137					
	50	60	"	1172	118	118	1127					
	10.10	80	"	116	1165	1165	1105					
	30	100	"	1145	1157	1157	1092					
	57	127	"	113.5	1142	1145	107					
	11.10	140	"	1127	114	114	106					
	30	160	"	1117	1122	1125	1025					
	49½	179½					100					-1346
	50	180	"	1107	1117	112	997					
	A.M.											
7/25/10	12.10	200	"	1097	110	1105	937					
	30	220	"	1082	1095	110	877					
	40	230	"	1075	108	1082	825	105	1065	1072	1097	
	50	240	"	106	1065	108	777					
	1.06	256	"				50	110				-192
	10	260	"	105	1057	1077						
	30	280	"	1022	1025	1055						
	42½	292½		100	100							
	50	300	"	98	98	102						-219.3

A III

2

DATE	TIME	MIN.	AMP'S		V	—		T	—		Sp.G	
	A.M.			210	231	239	4931					
7/25/10	2.00	310	45	957	957	100						-232.5
	10	320	"	92	925	975						
	20	330	"	897	902	942						
	30	340	"	877	88	92						
	50	360	"	80	837	862						
	3.10	380	"	712	795	815						
	31	400	"	62	777	80						
	32½	402½	"	50			1122					-301.8
	40	410	"		755	775						
	50	420	"		69	732						
	57	427	"		50			1125				-320.2
	4.00	430	"			585						
	01½	431½	"			50			1115			-323.6
	A.M.				Charge #2.							
7/25/10	5.30	0	45				95	98.5	97.5	92.7	83.7	
	8.30	180	"				97.2	100	98			
	11.30	360	"				100	1025	1007	99		
	P.M. 2.30	540	"				103	1065	1057	1052		
	5.30	720	"				108	111	110	110	93	
	8.30	900	"	1745	1737	176 180	109	111	110	109		-15 hrs.
					Discharge							
7/25/10	P.M. 8.33	—	open	1557	155	1557	156					
	35	0	45	1465	146	1457	146					

A III

DATE	TIME	MIN.	AMP'S	VOLTS				
	P.M.			210	231	239	4931	
7/25/10	8.37	2	45	140	140	140	140	
	40	5	"	138	1372	1372	138	
	45	10	"	1357	1342	1355	136	
	55	20	"	1335	1322	1322	134	
	9.05	30	"	1315	1305	1305	132	
	15	40	"	1297	1297	1297	130	
	35	60	"	1265	1267	126	1275	
	55	80	"	1242	1245	1242	1255	
	10.15	100	"	1225	1237	1235	124	
	35	120	"	122	1222	1222	1222	
	55	140	"	1207	121	1215	1215	
	11.15	160	"	1195	1197	120	1157	
	35	180	"	1.185	1.185	119	1.182	
	55	200	"	1.177	118	1182	118	
7/26/10	A.M. 12.15	220	"	1.16	1.162	116	1165	
	35	240	"	1.16	116	1165	1.162	
	55	260	"	114	114	1145	1145	
	1.15	280	"	1.135	1.137	1.145	1.142	
	35	300	"	1112	1115	112	112	$\sqrt{}$
	55	320	"	1.105	1102	112	111	E/
	2.15	340	"	108	108	1095	1077	
	35	360	367	1057	1057	1072	1022	= 275.2
	58	378	"		100		1.00	= 283.5
	55	380	"	100	992	1015	[illegible]	= 285
	56	381	"			100		= 2857

A III

DATE.	TIME	MIN.	AMP'S	V								
	A.M			210	231	239	4931	210	231	239	4931	
7-26-10	3.05	390	45	97	95	967	66					
	.09	394					50					1105-ΣP5.5
	.15	400	"	915	88	90						
	.25	410	"	857	765	795	—					
	.35	420	"	835	617	50						= 315
	.36½	421½	"		50							= 316.1
	.40	425	"	50				114	116	113		= 318.7
				[redacted] CHARGE!								
	A.M			CHARGE № 3								
7-26-10	6.35	0	45					85	90	90	87	85
	10.50	255	"					93	98.2	99	967	98
	P.M. 12.35	360	"					10.2	10.5	1045	1035	89
	3.35	540	"					107	110	110	110	90
	6.35	720	"					108	112	112	112	95
	9.35	900	"	1.762	1757	1.757	1.815	112	115	1.145	1.137	15 Hrs
				DISCHARGE								
	P.M.											
7-26-10	9.38	—	OPE	1.55	1.55	1.542	1557					
	40	0	45	146	1457	146	1.46					
	42	2	"	1.402	1.40	1.40	1.405					
	45	5	"	1.385	1.382	1.385	1.40					
	50	10	"	1.375	1.362	1.362	1.38					
	10.00	20	"	1.34	1.34	134	1.357					
	10	30	"	1317	132	1315	1.322					
	20	40	"	1.30	1.30	1.30	1.315					
	40	60	"	1272	1.28	1.277	1.28					

A III

DATE	TIME	MIN.	AMP'S	V	OLT	S	TE	M	PS			
	P.M			210	231	239	4931	210	231			
7-26-10	11.00	80	45	1.25	1.26	1.255	1.26					
	20	100	"	1.235	1.242	1.237	1.245					
	40	120	"	122	1217	1202	1222					
7-27-10	A.M. 12.00	140	"	1205	1217	1217	122					
	20	160	"	1197	120	120	120					
	40	180	"	1195	1197	120	120					
	1.00	200	"	118	1182	1185	1162					
	20	220	"	1177	1165	1182	118					
	40	240	"	1162	1157	1177	1167					
	2.00	260		1157	116	1162	116					
	20	280	"	1142	1142	1157	1145					
	40	300	"	1125	1137	114	1137					
	3.00	320	"	1117	112	1125	112					
	20	340	"	1097	110	1107	1062					
	30	350	"	1082	1097	110	1062					
	.40	360	"	1062	108	1082	102					
	.45	365					100					
	50	370	"	1025	1042	1045	922			1/8 .5 √		-273.7
	4.00	380	"	1002	102	102	665					
	01	381	"	1,00								-285.7
	03½	383½	"				50				1.11	-287.6
	07	387	"			100						-290.2
	08½	388½	"		100							-291.3
	10	390	"	982	987	982						
	20	400	"	90	925	92						
	30	410	"	82	86	835						
	40	420	"	50	76	517		1112				-315

A III

DATE	TIME	MIN.	AMP'S									
	A.M.			210	231	239	4931					
7/27/10	4.41	421	45			50				1165		-315.7
	46½	426½	"	-	50	-	-		1155			-319.8

Charge #4

DATE	TIME	MIN.	AMP'S									
	A.M.											
7/27/10	6,10	0	45					87	97	93	915	84
	9.10	180	"					100	102	1015	995	86
	P.M. 12.10	360	"					98	102	1015	110	
	3.10	540	"					1047	1087	108	1092	91
	6.10	720	"					108	1115	110	112	927
	9.10	900	"	176	1782	1777	183	107	1085	107	109	895
												15 hr

Discharge

DATE	TIME	MIN.	AMP'S									
	P.M.											
7/27/10	9.13	open		1557	1557	155	156					
	15	0	45	1457	145	1445	146					
	17	2	"	140	1397	1395	140					
	20	5	"	1365	1362	1365	138					
	25	10	"	136	136	136	1375					
	35	20	"	134	1337	133	1345					
	45	30	"	131	1317	1305	1322					
	55	40	"	130	130	1295	1305					
	10.17	62	"	1262	127	1262	128					
	35	80	"	1242	1255	1242	126					

A III

DATE	TIME	MIN.	AMP'S	210	231	239	4931					
	P.M.											
7/27/10	10.55	100	45	1217	1222	122	1225					
	11.15	120	"	1217	122	122	1222					
	35	140	"	1197	1197	120	1202					
	55	160	"	1182	1195	1197	1197					
7/28/10	A.M. 12.15	180	"	118	1182	1182	1185					
	35	200	"	1177	1177	118	118					
	55	220	"	1162	1165	1175	1177					
	1.15	240	"	1157	116	116	116					
	35	260	"	1155	1157	1162	1162					
	55	280	"	1137	1137	114	114					
	2.15	300	"	112	112	1125	112					
	35	320	"	1102	1115	1117	1105					
	55	340	"	1082	1095	110	108					
	3.15	360	"	1057	1062	1065	1015					
	18	363	"				100					-272.2
	25	370	"	1022	104	1042	90.					
	35	380	"	1015	1022	1025	542					
	36	381	"				50				1035	-285.7
	37	382	"	100								-286.5
	40	385	"		100	100						-288.7
	45	390	"	96	98	98						
	55	400	"	90	922	917						
	4.05	410	"	785	84	80						
	12½	417½	"	50				1075				-313.17
	15	420	"		64	585						
	16½	421½	"			50			109			-316.17
	22	427	"		50					1085		-320.2

A III

DATE	TIME	MIN.	AMP'S	210	231	239	4931					
	A.M.			Charge				#	5			
7/28/10	5.55	0	45	89	84.5	83.7	84.7	✓				
	8.55	180	"	95	93.5	93.5	83.5	84				
	11.55	360	"	100	99.5	99.7	100					
	P.M. 2.55	540	"	102	103.7	103.2	115	92.5				
	5.55	720						110.2	112	112	113	92.7
	8.55	900	"	112 176	114 176.2	113 175.7	114 181		-15 a.			
	P.M.			Discharge								
7/28/10	8.58	open		1557	1557	1557	156					
	9.00	0	45	1465	1462	146	1475					
	02	2	"	1415	1415	1415	1417					
	05	5	"	139	1385	1385	1397					
	10	10	"	1357	1357	1357	1362					
	20	20	"	1325	1325	1325	134					
	30	30	"	132	1322	1322	1335					
	40	40	"	130	1302	130	1305					
	10.00	60	"	1277	128	1277	1282					
	20	80	"	1245	1257	1255	126					
	40	100	"	1225	124	1237	124					
	11.00	120	"	1217	122	122	1222					
	20	140	"	1205	1207	1207	121					
	40	160	"	1197	120	120	120					
	12.00	180	"	1182	1197	1197	120					

A III

DATE	TIME	MIN.	AMP'S	VOLTS								
	A.M.			210	231	239	4931					
7/29/10	12.20	200	45	118	1182	1182	1185					
	40	220	"	1165	1177	1177	1177					
	1.00	240	"	116	1165	1175	1175					
	.20	260	"	1157	116	1165	1162					
	40	280	"	1157	1157	116	116					
	2.00	300	"	1135	1145	1147	1157					
	20	320	"	1115	1125	1132	11.2					
	40	340	"	110	1112	1117	1092					
	3.00	360	"	1057	108	108	100			-270		
	.10	370 374	"	1037	107	1067	90 50			-280.5		
	.20	380	"	1007	1065	1062	+.02					
	.21	381	"	1.00						-285.7		
	.30	390	"	955	1015	100				-292.5		
	33	393	"		100					-294.7		
	40	400	"	88	962	934						
	.50	410	"	725	90	837				-312		
	.56	416	"	50				.1205		112		
	4.00	420	"		815	56						
	.00½	420½	"			50				1172	-310.3	
	.10	420	"		.62				1195			
	10½	430½	"		50						-322.8	
7-29-10	A.M.	hrs		Charge #6								
	7.00	0	45					87²	88²	93	95	85.7
	10.00	3	"									
	P.M. 2.20	7	"	1677	1665	1675	180	1801	103	104	1035	

20 min overcharged
= 7½ hrs

A III

DATE	TIME	MIN.	AMP'S	VOLTS								
				210	231	239	4931					
7-29-10	P.M.			Discharge								
	2.23	–	off	154	1525	1525	1557					
	.25	0	45	145	1422	1422	1457					
	.27	2	"	1397	138	138	140					
	30	5	"	1362	1357	1357	1376					
	35	10	"	1355	134	134	136					
	45	20	"	1335	132	132	134					
	55	30	"	1312	130	130	1322					
	305	40	"	130	1282	1285	1305					
	25	60	"	126	125	1255	1277					
	45	80	"	124	124	124	1262					
	405	100	"	1222	1222	1225	125					
	25	120	"	121	1215	122	1235					
	45	140	"	120	120	1202	1222					
	505	160	"	1182	1185	1197	1217					
	25	180	"	117	117	1177	120					
	45	200	"	116	116	1165	120					
	605	220	"	1142	114	1142	118					
	.25	240	"	1122	1115	1117	1177					
	.45	260	"	1095	101	1023	1162					
	.48	263	"		100						-177.2	
	.51	266	"			100					-195.5	
	.55	270	"	1077	93	955	1057					
	.58	273	"		90			119			-204.7	
	7.00	275	"			90			116		-206.2	
	.05	280	"	104			1142					

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
7·29·10	PM 7.15	290	45	1.017			114					
	.19	294	"	1.00								— 198
	.25	300	"	.975			112					
	.35	310	"	.905			1032	112				— 233.2
	.36	311	"	.90								
	.45	310	"				1.00					— 240
	.52½	327½	"				90				1113	— 245.6

Charge # 7

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
7/29·10	PM 925	0	45	1457	150	1502	162	106	105	1037	1045	
	27	2	"	1522	156	1562	1555					
	30	5	"	155	158	158	1565					
	35	10	"	1577	1597	1585	1585					
	45	20	"	1597	1617	1102	1622					
	55	30	"	1602	1622	1617	1657					
	1005	40	"	1617	1647	1635	1662					
	25	60	"	1642	166	1657	1642					
	45	80	"	1662	1657	166	164					
	1105	100	"	1662	1645	165	1635					
	25	120	"	1662	1657	1657	1645					
	45	140		1.665	1.657	1.657	1.642					
7/30-10	AM 1205	160		1.677	1.662	1.662	1.657					
	25	180		1.672	1.66	1.66	1.657					
	45	200		Current was too low, had to switch over								
	105	220		1.677	1.677	1.677	1.665					

A III

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	9dec
7/30·10	AM 1.25	240	45	1.68	1.68	1.677	1.675	-				
	.45	260	"	1.682	1.682	1.68	1.68					
	205	280	"	1.697	1.697	1.692	1.697					
	25	300	"	1.697	1.70	1.697	1.702					
	45	320	"	1.702	1.712	1.705	1.725					
	305	340	"	1.70	1.712	1.71	1.737					
	25	360	"	1.70	1.72	1.72	1.76					
	45	380	"	1.716	1.737	1.735	1.802					
	405	400	"	1.715	1.74	1.737	1.817					
	25	420	"	1.722	1.755	1.757	1.885		— 7 R			

Discharge

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	
7/30/10	A.M. 4.28	Open		1.562	1.562	1.56	1.565					
	.30	0	45	1.48	1.465	1.462	1.482	93.7	97.2	96	94	
	.32	2	"	1.40	1.40	1.40	1.40					
	.35	5	"	1.38	1.377	1.38	1.38					
	.40	10	"	1.36	1.36	1.36	1.36					
	.50	20	"	1.337	1.325	1.325	1.337					
	5.00	30	"	1.315	1.305	1.307	1.312					
	.10	40	"	1.29	1.292	1.29	1.295					
	.30	60	"	1.262	1.265	1.262	1.275					
	.50	80	"	1.225	1.237	1.237	1.242					
	6.10	100	"	1.207	1.222	1.222	1.232					
	.30	120	"	1.205	1.22	1.22	1.232					

A III

DATE	TIME	MIN.	AMP'S	Volts				Temps				
	P.M			210	231	239	4931	210	231	239	493	Idle
	6.50	140	45	1.20	1.207	1.212	1.222					
7/30/10	7.10	160	"	1.177	1.187	1.19	1.20					
	.30	180	"	1.177	1.195	1.195	1.202					
	.50	200	"	1.162	1.182	1.182	1.195					
	8.10	220	"	1.152	1.175	1.175	1.182					
	.30	240	"	1.14	1.16	1.162	1.172					
	.50	260	"	1.13	1.143	1.147	1.157					
	9.10	280	"	1095	1125	1127	1132					
	.32	302	"	1.047	1.097	1.10	1.067					
	.40	310	"	1.022	1.08	1.08	1.002					
	.41	311	"				1.00		— Σ 33.2			
	.45½	315½	-	1.00					— Σ 36.6			
	48	318	-				.90		— Σ 38.5			
	50	320	-	.982	1.065	1.05						
	10.00	330	-	925	1007	1002						
	.01	331	-			100			— Σ 48.2			
	.02	332	-		100				— Σ 49			
	.03	333	-	90					— Σ 49.7			
	.10	340	-		945	927			— Σ 57.6			
	13½	343½				90			— Σ 59.1			
	15½	345½			90			OK H.E.				

Stood idle 3+ dys
over Saturday & Sunday

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
	P.M			210	231	239	4931	210	231	239	4931	IDLE
7-31-10				Charge #8								
	8.20	0	45	1.48	1.562	1.567	1.582	835	835	837	842	835
	.22	2	"	1.58	1.617	1.615	1.60					
	.25	5	"	1.617	1.64	1.635	1.62					
	.30	10	"	1.637	1.66	1.645	1.645					
	.42	22	"	1.65	1.68	1.657	1.687					
	.50	30	"	1.657	1.695	1.662	1.70					
	9.00	40	"	1.677	1.705	1.695	1.692					
	20	60	"	1.685	1.70	1.70	1.68					
	.40	80	"	1.702	1.702	1.697	1.677					
	10.00	100	"	1.70	1.68	1.682	1.662					
	20	120	"	1.68	1.68	1.68	1.662					
	40	140	"	1.68	1.677	1.677	1.662					
	11.00	160	"	1.685	1.682	1.682	1.672					
	20	180	"	1.687	1.682	1.682	1.675	932	947	942	013	84
	40	200	"	1.69	1.687	1.682	1.68					
8-1-10	A.M 12.00	220	"	1.687	1.682	1.682	1.682					
	20	240	"	1.687	1.687	1.682	1.687					
	40	260	"	1.692	1.692	1.685	1.697					
	1.00	280	"	1.70	1.697	1.687	1.705					
	20	300	"	1.702	1.702	1.70	1.722					
	40	320	"	1.705	1.715	1.702	1.74					
	2.00	340	"	1.717	1.725	1.71	1.762					

A III

DATE	TIME	MIN.	AMP'S	V				T				
				210	231	239	4931	210	231	239	4931	IDLE
	AM											
8-1-10	220	360	20	1.72	1.737	1.72	1.787					
	40	380	"	1727	1.752	1732	1822					
	3.00	400	"	1735	1.762	1.742	1.835			— 7 h.		
	20	420	"	1742	1765	1755	184	962	982	975	97	83
												"
	A.M			DISCHARGE								
8-1-10	3.23	—	OPEN	1567	15.67	1.565	1.575					
	25	0	45	1.462	1.462	1.46	1.47					
	27	2	"	1.402	1.402	1.402	1.405					
	30	5	"	1.385	1.382	1.382	1.382					
	35	10	"	1.362	1.36	1.362	1.362					
	45	20	"	1.337	1.332	1.337	1.34					
	55	30	"	1.317	1.307	1.307	1.317					
	4.05	40	"	1297	1.297	1297	1302					
	25	60	"	1.265	1267	1267	1.282					
	45	80	"	1.242	1.245	1.242	1.26					
	5.05	100	"	1222	1232	1222	1242					
	25	120	"	1205	1222	122	123					
	45	140	"	1197	1207	1207	1222					
	6.05	160	"	1182	1155	1197	1267					
	25	180	"	1175	1182	1185	126	100	103	1015	97	992
	45	200	"	1165	1182	1182	1195					
	7.05	220	"	115	1167	117	1182					
	25	240	"	1155	1155	1157	115					

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
				210	231	239	4931	210	201	209	4931	
	AM											
8-1-10	7.45	260	45	1.132	1155	1157	1127					
	805	280	"	1092	1122	112	1132					
	25	300	–	1057	110	1097	1082					
	.43	318	–				100					-238.5
	.45	320	–	1012	1045	101	982					
	.49	324	–	100								-243.
	.50½	325½	–				.90				101	-244.1
	.53	330	–	975	1042	103						
	9.01	336	–			100						-252
	03½	338½	–		100							-253.8
	.05	340	–	92	987	97						
	10	345	–	90				106				-258.7
	15	350	–		942	915						
	17	352	–			90				1015		-264
	23	358	–		90				109			-268.5
				Charge #9								
	AM											
8-1-10	10.45	0	45	1.445	1.477	1.502	1.542	93	99	895	88	99
	47	2	"	1.532	1.55	1.577	158					
	50	5	"	1.572	1.562	1.592	1.592					
	55	10	"	1.597	1.597	1.602	1.622					
	11.05	20	"	1.612	1.62	1.622	1.662					
	15	30	"	1.625	1.64	1.64	1.682					
	25	40	"	1.657	1.662	1.66	1.68					
	45	60	"	1.665	1.672	1.68	1.66					
	PM 12.05	80	"	1.68	1.662	1.677	1.655					
	25	100	"	1.677	1.66	1.68	1.652					
	45	120	"	1.67	1.66	1.66	1.697					
	1.05	140	"	1.67	1.66	1.62	1.65					

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
8-1-10	AM 1.25	160	30	1665	166	166	1.655					
	45	180	"	1665	166	166	166					
	2.05	200	"	1.675	1.662	1.665	1.665					
	25	220	"	1.665	1.66	1.66	1.67					
	45	240	"	1.672	1.67	1.67	1.68					
	3.05	260	"	1.68	1.677	1.677	1.69					
	25	280	"	1.685	1.682	1.682	1.702					
	45	300	"	1.682	1.68	1.677	1.702					
	4.05	320	"	1.695	1.697	1.695	1.732					
	25	340	"	1.702	1.705	1.70	1.762					
	45	360	"	1.70	1.707	1.70	1.785					
	5.05	380	"	1.717	1.735	1.72	1.817					
	25	400	"	1.722	1.742	1.732	1.82					
	45	420	"	1.74	1.762	1.767	1.83	100	103	101.5	102	7 hrs.
8-1-10	P.M			Discharge								
	5.48	Open		1.557	1.56	1.555	1.56					
	.50	0	45	1.47	1.46	1.46	1.47					
	.52	2	"	1.402	1.40	1.402	1.402					
	.55	5	"	1.385	1.38	1.382	1.38					
	6.00	10	"	1.36	1.36	1.362	1.365					
	.15	25	"	1.325	1.322	1.322	1.327					
	.25	35	"	1.30	1.30	1.302	1.31					
	.35	45	"	1.29	1.285	1.284	1.30					

A III.

DATE	TIME	MIN.	AMP'S	210	231	239	4931	210	231	239	4931	Idle.
8/1/10	6.45	55	45	1.277	1.28	1.277	1.287					
	7.05	75	"	1.25	1.26	1.26	1.27					
	.25	95	"	1.23	1.24	1.24	1.252					
	.45	115	"	1.217	1.22	1.22	1.237					
	8.05	135	"	120	1.215	1.215	1.222					
	.25	155	"	1185	120	120	122					
	.42	172	"	118	1.197	1.197	1.205	107	1085	1085	10.6	84
	9.05	195	"	1.162	1.18	1.18	1197					
	.25	215	"	1.155	1.165	1.175	1182					
	45	235	"	114	1157	116	1177					
	1005	255	"	1.122	1142	1142	116					
	25	275	"	110	1122	1122	114					
	35	285	"	1097	112	1122	114					
	45	295	"	108	1102	1102	1115	106	1095	110	1085	
	1100	310	"	1055	1095	110	1077					
	.05 .12	315 322	"	1042	1082	1087	1047 100			– 241.5		
	.15 .17½	325 327½	"	1002 100	1047	106	967			– 243.7		
	.23	333½	"				90			– 250.1		
	.25 .27½ .29	335 337½ 339	" " "	962	~~[illegible]~~ 102 100	1022 100				– 253.1 – 254.2		
	.35 .36½ .45	345 346½ 355	" " "	907 9.0	967 905	967 9.0				– 259.8 – 266.2 – 270		
	50	365	-		9.0			112	115	115	108	

A III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
				210	231	239	4931	210	231	239	4931	IDLE
	A.M			CHARGE #10								
8-2-10	1.50	0	45	1.42	1.425	1.502	1567	92	95	95	91	825
	52	2	"	1545	1545	156	1595					
	55	5	"	1582	1582	1587	162					
	2.00	10	"	1.605	1.612	1.607	1.642					
	10	20	"	1.627	1.64	1.627	1.685					
	20	30	"	1.64	1.662	1.642	1.70					
	30	40	"	1.647	1.682	1.662	1.682					
	50	60	"	1.68	1.682	1.685	1.667					
	3.10	80	"	1.68	1.665	1.672	1.655					
	30	100	"	1.68	1662	1665	1657					
	50	120	"	1.682	1.665	1.667	1.662					
	4.10	140	"	1.675	1665	1667	1662					
	30	160	"	1675	1.662	1.662	1.662					
	50	180	"	1675	1667	1667	1.667	932	962	95	92	802
	5.10	200	"	1.68	1.672	1.672	1.675					
	30	220	"	1682	1677	168	1682					
	50	240	"	1682	1682	1682	1692					
	6.10	260	"	1687	1682	1682	169					
	30	280	"	1675	1672	1667	169					
	50	300	"	169	169	1687	172					
	7.10	320	"	1692	1697	169	1727					
	30	340	"	1702	1702	170	1722					

A. III

10

DATE	TIME	MIN.	AMP'S	V	O	L	T	T	E	M	P	S
				210	231	239	4931	210	231	239	4931	IDLE
8-2-10	AM 7.50	360	45	172	1725	172	1805					
	810	380	"	1732	1742	173	1825					
	30	400	"	1745	1762	1755	184					
	50	420	"	176	178	1765	1845		-72			
				DISCHARGE								
8-2-10	AM 8 53	—	OPEN	1577	1577	1575	158					
	55	0	45	1477	147	1462	148	96	985	97	962	80
	57	2	"	1415	1412	1417	1415					
	9.00	5	"	140	1392	1382	1395					
	05	10	"	138	1372	1362	1375					
	15	20	"	1345	134	1342	1345					
	25	30	"	132	1317	1317	1322					
	35	40	"	1305	1303	1302	1317					
	1055	60	"	1282	1277	1275	129					
	1015	80	"	1242	1252	1245	1262					
	35	100	"	1.22	1225	1222	1242					
	1155	120	"	1202	122	1217	1205					
	1115	140	"	1.20	1.21	1205	1.222					
	35	160	"	1187	120	1197	1215					
	1.55	180	"	1.18	1187	1187	1.202	101	1025	101	985	81
	PM 1215	200	"	1165	1142	118	1197					
	35	220	"	1155	1167	1162	1185					
	55	240	"	1142	112	116	1177					

Ch #10

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
8-2-10	PM 1.15	260	45	1125	1845	1142	1162					
	.35	280	-	110	11.2	1.12	114					
	.55	300	-	1077	11.02	110	111					
	2.05	310	-	104	1075	1065	1057					
	13	318	-				1.00					-238.5
	15	320	-	1017	1057	1045	98					-243
	19	324	-	1.00								
	24	329	-				90				1075	-246.7
	25	330	-	99	1035	1025						
	31½	336½	-			100						-252.3
	32½	337½	-		1.00							-253.1
	35	340	-	94	985	98						
	43½	348½	-	90				1122				-261.3
	45	350	-		95	93						
	48½	353½	-			90				1117		-265.1
	.53	358	-	—	90			—	1144			-268.5

Charge #11

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	
8/2/10	P.M. 1.55	0	45	144	146	149	156	97	992	94	885	84
	.24	2	"	1522	1522	1545	158					
	.30	5	"	156	156	1577	160					
	.35	10	"	158	1592	1602	1632					
	.45	20	"	1605	1614	162	164					
	.55	30	"	1.62	1.64	163	1.684					
	3.05	40	"	1.624	1.654	1.644	1.657					
	.25	60	1	1.653	1.662	1.667	1.65					

A III

DATE	TIME	MIN	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	
8/2/10	PM 5.45	80	40	168	1662	164	165					
	6.05	100	"	1677	1657	1662	1655					
	.25	120	"	168	166	1662	166					
	.45	140	"	166	1645	165	1642					
	7.05	160	"	166	1655	1657	1657					
	.25	180	"	1662	1657	166	166	95	985	96	92	82
	.45	200	"	1.662	1.66	1.66	1.665					
	8.05	220	"	167	1662	1662	1.68					
	.25	240	"	1.68	1677	1677	169					
	.45	260	"	168	168	168	1.70					
	9.05	280	"	1697	169	1.69	1.715					
	.25	300	"	170	170	1.697	1725					
	.45	320	"	1702	1702	1.70	1.755					
	10.05	340	"	1.72	172	1.717	1.782	94	97	94	922	797
	.25	360	"	172	1722	172	1815					
	.45	380	"	173	1742	1737	1835					
	11.05	400	"	1.745	1.762	1.755	1.842					
	.25	420	"	1.762	1.78	1.765	1.84					
	.45	440	"	1.762	1.782	1.775	1.84	Leave on to 15 hr				
8/3/10	A.M. 12.05	460	"	1767	1785	1.78	1.84	Volt readings				
	.25	480	"	1775	1.787	1.78	1842					
	.45	500	"	1.78	1.787	1.78	1.84					
	1.05	520		1.78	1.787	1.78	1.84	101	104	102	102	81

A III

DATE	TIME	MIN.	AMP'S	V				T				
				210	231	239	4931	210	231	239	4931	1066
	A.M											
8-2-10	125	540	4.5	1.782	1.795	1.782	1.842					
	45	560	"	1.782	1.794	1.777	1.84					
	205	580	"	1.78	1.79	1.777	1.84					
	25	600	"	1.782	1.795	1.78	184					
	45	620	"	1.782	1.795	1.78	1.84					
	305	640		1.782	1.795	1.76	1.837					
	25	660		1.78	1.795	1.78	1.835					
	45	680		178	1.787	1775	1835					
	405	700	4	1.777	1.785	1.767	1.825					
	25	720		1.762	1.777	1.762	1.82					
	45	740		1767	178	1762	182	106	110	107	1065	
	505	760	"	178	1767	1777	1825					
	25	780		1775	1782	177	1.822					
	45	800		1782	179	177	1822					
	605	820		178	1785	1.775	1823					
	25	840		178	1782	1775	1827					
	45	860	1	178	1782	1777	1827					
	705	880		1.782	179	1.78	1827		15 hrs.			
	25	900		1775	178	1762	182	107	1102	1075	1062	812
				Discharge								
	AM											
8-3-10	728	–	Open	1555	1555	1552	1.56					
	30	0	45	1.462	1.46	1.457	1.462					
	32	2	[illegible]	1.402	1.402	1.402	1.462					

A III 11

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS				
				210	231	239	4931	210	231	239	4931	
	AM											
8-3-10	735	5	46	1382	1382	1382	1385					
	40	10		1365	1362	1362	1365					
	50	20	–	1347	1347	1347	1355					
	800	30		133	1335	1332	134					
	10	40		131	1315	1312	132					
	30	60		128	1285	128	129					
	50	80		1.252	1.26	1.255	1.265					
	910	100	-	1.237	1.247	1.237	1.255					
	30	120	-	1.22	1.235	1.22	1.235					
	50	140		1.215	1.22	1.22	1.235					
	1010	160	-	1.20	1.215	1.215	1.22					
	30	180		1.197	1.202	1.20	1.212	1087	112	1095	105	
	50	200	-	1.185	1.195	1.197	1.20					
	1110	220	-	1.177	1.187	1.19	1.19					
	50	240	-	1.17	1.18	1.18	1182					
	50	260	-	1.16	1.175	1.18	1.18					
	PM 1210	280	-	1142	116	1162	1165					
	30	300	–	1132	115	115	115					
	50	320	-	1.112	1.13	1.132	1.125					
	110	340	-	109	1117	112	110					
	30	360	-	1052	1085	1095	1033	112	1145	112	109	85
	38	368	-				100				–2	76
	40	370	-	1035	1077	1082	967					
	50	380	–	1003	1055	106	855				–2	765
	52	382	-	100								
	200	390	-	962	1020	1042	645					

A III

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	
												-293.2
8/3/10	P.M. 2.01	3.91	45				50				113	8.5
	.04½	397½	"		100							-298.1
	.10	400	"	914	985	100						-300
	20	410	"	857	945	955						
	.33	423	"	71	88	88						
	.38	428	"	50				118				-321
	.40	430	"		84	82						
	.50	440	"		78	71½						
	.58½	448½	"			50				118		-336.3
	3.00	450	"		62							
	.02½	452½	"		50				117		-339.3	.852

Charge #12

DATE	TIME	MIN.	AMP'S	210	231	239	4931	210	231	239	4931	
	P.M. 3.45	-	45					92	94	100	89	85
8/3/10	6.45	3	"					95	101	101	94	837
	9.45	6	"					985	1035	100	99	837
8/4/10	A.M. 12.45	9	"					1005	105	1032	103	822
	3.45	12	"					104	108	106	106	82
	6.45	15		1795	1787	1772	1827	1022	102	1065	1042	81
										-15' On		

DISCHARGE

DATE	TIME	MIN.	AMP'S	210	231	239	4931
8-4-10	AM 6.48	-	open	1575	157	1562	1577
	50	0	75	1462	148	1475	1462
	52	2	"	142	142	1415	142

12

A III

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	249	4931	Ah
8-4-10	PM 6.55	5	75	1397	1395	1395	1395					
	7.00	10	"	1377	1375	1372	138					
	10	20	"	1345	1342	1342	1347					
	20	30	"	133	1332	1325	1335					
	30	40	"	1302	1302	1302	1307					
	50	60	"	1277	1262	128	1267					
	8.10	80	"	125	1257	1257	1262					
	30	100	"	1232	1242	124	1247					
	50	120	"	1207	122	1217	122					
	9.10	140	"	1202	1215	1212	1217					
	30	160	"	1195	1205	1207	1212					
	50	180	"	118	1187	1187	1195	103	107	106	101.5	-79.5
	10.10	200	"	1175	118	1182	1185					
	30	220	"	1162	1175	1175	118					
	50	240	"	1157	1162	1165	1165					
	11.10	260	"	1155	1162	1162	1162					
	30	280	"	1137	1147	1152	1152					
	50	300	"	1127	1142	1142	1142					
	AM 12.10	320	"	1115	1132	1134	1125					
	30	340	-	109	111	1112	110					
	50	360	-	1085	109	1095	105					
	1.00	370	-	104	1092	1075	100			-277.85		
	10	380	-	1012	105	105	862					
	1.15½	385½	-	100						[illegible]		

A III

DATE	TIME	MIN.	AMP'S	Volts				Temps				
				210	231	239	4931	210	231	239	4931	IDLE
8-4-10	PM 1.20	250	45	96	103	1025	56 50	1035	111	110	107	81
	.22½	392½	"								107	-294.3
	25½	395½	"			100						-296.6
	28	398	"		100							-298.5
	30	400	"	915	995	98						
	40	410	"	837	94	922						
	.50	420	"	58	86	82						
	51½	421½	"	50				111.2				-316.1
	2.00	430	"		762	65				1125		-325.1
	.03½	433½	"			50						
	.09½	439½	"		50				1135			-329.6

Charge #13

DATE	TIME	MIN.	AMP'S	210	231	239	4931	210	231	239	4931	IDLE
8/4/10	PM 3.30	0	1.5					88	84	94	92	832
	6.30	3	"					923	94	95	93	84
	9.30	6	"					952	97	962	94	835
8/5/10	AM 12.30	9	"					95	975	952	945	80
	3.30	12	"					1015	105	1022	1017	812
	6.30	15	"	1785	1782	1775	1805	101	107	105	108	817
										-152		

Discharge

DATE	TIME	MIN.	AMP'S	210	231	239	4931
8/5/10	AM 6.27	Open		1571	1575	157	158
	35	0	45	149	1475	1475	1482
	37	2	"	141	1405	1405	1405
	40	5	"	1387	1367	1387	1385

A III

13

DATE	TIME	MIN.	AMP'S	Volts				Temps				
				210	231	239	4931	210	231	239	4931	Idle
8/5/10	AM 6.45	10	45	1275	1265	1265	1267					
	55	20	"	1.34	1.34	1.34	1.347					
	7.05	30	"	1.327	1.322	1.32	1.327					
	15	40	"	1.30	1.30	1.30	1.302					
	35	60	"	1.275	1.28	1.277	1.282					
	55	80	"	1.252	1.257	1.255	1.26					
	8.15	100	"	1.23	1.24	1.24	1.24					
	35	120	"	1.22	1.225	1.22	1.222					
	55	140	"	1.202	1.215	1.217	1.217					
	9.15	160	"	1.20	1.205	1.205	1.205					
	35	180	"	1.185	1.20	1.20	1.20	101.2	104	105	1025	822
	55	200	"	1.18	1.19	1.19	1.185					
	10.15	220	"	1.17	1.18	1.18	1.18					
	.35	240	"	1.162	1.18	1.18	1.175					
	.55	260	"	1.16	1.165	1.17	1.16					
	11.15	280	"	1.145	1.16	1.16	1.15					
	.38	308	"	1.128	1.142	1.142	1.122					
	.55	320	"	1.112	1.135	1.135	1.115					
	PM 12.15	340	"	1.09	1.115	1.12	1.08					
	.25	350	"	1022	1105	111	105					
	35	360	"	1062	1095	110	102					
	.40½	365	"				100			-274.1		
	45	370	"	1042	1082	1065	967					
	.55	380	"	1.015	1.065	1.065	935					
		386	"	1.00						-287.5		

A III

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	Idle
	P.M.											
8/5/10	1.05	390	45	.987	1.042	1.045	.50	106		−292.5		
	.15	400	"	.925	1.015	1.01						
	.18	403	"	—	—	1.00	—			−302.2		
	.20	405	"	—	1.00	—	—			−303.7		
	.25	410	"	.86	.99	.965	—					
	.35	420	"	.737	.92	.897	—					
	.42	427	"	.50	—	—	—	1.12		−320.2		
	.45	430	"	—	.855	.80	—					
	.55	440	"	—	.745	.60						
	2.02	447	"			.50			110.2	−335.2		
	2.05	450	"		.54							
	.06	457	"		.50			115.5		−338.2		

Cells out of acid —
Storage cells
#210, #231 & #239 charged 10 hours
@ 60 Amps. and were
then returned to the
Jersey Branch Battery
(August 10, 1910).

DATE	TIME	MIN.	AMP'S

DATE	TIME	MIN.	AMP'S

November 3rd. 1910.

A 8 Cell #1682

Regular cell, of average capacity, from stock at Storage Battery Co. sent to laboratory in special tray for shock test (see page 85 – Miscellaneous Readings & Tests Vol. IV)

This cell was bumped 28,800 times and when examined for the last time was found ~~that~~ the bottom had sagged about 1/16" out of line

This cell had the regular three forming runs at S.B. Co. Lab.

A.V ②

DATE	TIME	MIN.	AMP'S	V.	T.
				1682	1682
				Charge #4	
11-2-10	P.M. 10.10	0	60		75.7
11-3-10	A.M. 1.10	3	.		92
	4.10	6	.		95.5
	7.10	9	.		99.2
	10.10	12	.		103
	P.M. 1.10	15	.	1787	104
				Discharge	
11-3-10	PM 113	–	open	1542	
	15	0	60	145	
	17	2	–	1365	
	20	5	–	135	
	25	10	–	1335	
	35	20	–	1207	
	45	30	–	1287	
	55	40	–	1277	
	215	60	–	1257	
	35	80	–	1235	
	55	100	–	1217	
	315	120	–	1202	
	35	140	–	1197	
	55	160	–	1182	

15 hrs

AV ②

DATE	TIME	MIN.	AMP'S	Volts	Temps
	Pm			1662	1662
11/3	415	180	60	1167	
	35	200	"	116	1045
	55	220	"	1152	
	515	240	"	114	
	35	260	"	1137	
	55	280	"	112	
	615	300	"	1112	
	3.5	320	"	1082	
	45	330	"	1072	
	55	340	"	1057	
	705	350	"	1027	
	.11 .15	357 360	"	100 982	
	.25	370	"	76	
		372.5		150	
	.35	380	"	-24	1105

372.5
380 OK
-357

CHARGE #5

DATE	TIME	MIN.	AMP'S	Volts	Temps
	P.M				
11-3-10	10.20	0	60		97
11-4-10	A.M 1.20	3	"		91.5
	4.20	6	"		90.5
	7.20	9	"		94
	10.20	12	"		98.5
	P.M 1.20	15	"	180	1077

AV

DATE	TIME	MIN.	AMP'S	V-	T-
				1282	1282
				Discharge	
11-4-10	PM 123	—	open	1547	
	25	0	60	1445	
	27	2	"	1375	
	30	5	"	1357	
	35	10	"	134	
	45	20	"	1317	
	55	30	"	1292	
	205	40	"	1282	
	25	60	"	126	
	45	80	"	124	
	305	100	"	1222	
	25	120	"	1215	
	45	140	"	1.20	
	4.05	160	"	119	
	25	180	"	118	104
	45	200	"	117	
	5.05	220	"	1162	
	25	240	"	1147	
	45	260	"	1142	
	6.05	280	"	1127	
	25	300	"	1115	
	45	320		1087	

A V ②

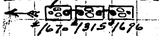
DATE	TIME	MIN.	AMP'S	V	T		
				1682	1682 [illegible]		
11/4/10	P.M. 6 55	330		1075			
	7 05	340		1055			
	15	350		1017			
	18	353		100			-353
	25	360		925			
	34½	369½		50	1072	OK	-369.5
	45	[illegible]					

11-4-10 Disconnected from board and set aside.

---

an average rigid laborer could give it.

Tray was given 435 end bumps with cells in the following positions and in direction marked



#1670 #1315 #1696

After this test, the tray was given 100 side bumps.

November, 1st, 1910.

A. E. Cells
#1315-#1670-#1696

This set of cells were taken from the regular stock of E. S. B. Co.

Filled with 21% KOH + 50 g. LiOH per each cell, it had the three regular forming runs of Commercial Testing Department.

Cells were mounted in a special tray designed by T. A. E. which in turn was mounted on a four wheeling truck in such a way as to hold it upright and also give it a small amount of play both lengthwise and sidewise.

Truck was run a distance of 10 feet into a concrete wall with all the force

— see opposite page —

A I ②

DATE	TIME	MIN.	AMP'S	V			T			
				1315	1670	1696	1315	1670	1696	
	AM			Charge #4						
	5.00	0	60			872	775	767		
11/7/10	8.00	3	"			86	86	86		
	1100	6	"			905	915	905		
	PM 2.00	9	"			94½	95	94		
	5.00	12	"		1805	99	995	977		
	8.00	15	"	182	1807	997	1105	982		-15 hrs
	PM			Discharge						
11/7/10	8.03	Open		156	1555	1552				
	05	0	60	1445	1445	144				
	07	2	"	136	136	1357				
	10	5	"	134	134	1337				
	15	10	"	133	133	1325				
	25	20	"	131	131	1307				
	35	30	"	1295	1295	1292				
	45	40	"	1282	1282	1282				
	9.05	60	"	1245	125	1245				
	25	80	"	1235	1217	1225				
	45	100	"	119	120	1192				
	10.05	120	"	1185	1185	1182				
	25	140	"	1185	118	1182				
	45	160	"	118	1177	118				
	11.05	180	"	1162	1165	1167	102	103	997	

A V ②

DATE	TIME	MIN.	AMP'S	Volts			Temps			
	PM			1315	1670	1696	1315	1670	1696	
11.7.10	11.25	200	60	1.155	1.155	1.162				
	45	220	"	1.147	1.147	1.157				
11.8.10	AM 12.05	240	"	1.14	1.137	1.14				
	25	260	"	1.122	1.122	1.157				
	45	280	"	1.117	1.117	1.125				
	1.05	300	4	1.16	1.097	1.112				
	25	320	"	1.062	1.057	1.097				
	35	330	"	1.047	1.052	1.082				
	45	340 (343)		1.037 (100)	1.04	1.082				343.0
	55	350	"	962	100	1.057				350.0
	2.05	360	"	837	96	1.037	1087	1082	1.037	
	12½	367½		50						367.5
	15	370 (373)	4		842	1012 (100)				373.0
	25	380		—	507	977				382.0
	27	382			50					
	35	390	"			885		1117		
	44½	399½				50			108	399.5
	AM			CHARGE #5						
11-8-10	7.00	0	60				90	92	905	
	10.00	3	4				945	96	95	
	PM 1.00	6	4				96	97	955	
	4.00	9	4				1012	1012	99	
	7.00	12	4				1027	103	101	
	10.00	15	"	1837	1817	1815	100	100	977	

OK WAM

A V

DATE	TIME	MIN.	AMP'S	Volts 1315	1670	1696	Temp 1315	1670	1696
11-8-10	PM			Discharge					
	10.03	Open		1587	158	158			
	05	0	60	146	1457	1455			
	07	2	"	1375	1377	1375			
	10	5	"	1357	1357	1357			
	15	10	"	1337	1337	1337			
	25	20	"	1312	1317	1315			
	35	30	"	1292	1295	1295			
	45	40	"	128	128	128			
	11.05	60	"	124	124	1242			
	25	80	"	1225	1225	1215			
	45	100	"	1215	1215	1215			
11-9-10	AM 12.05	120	"	1202	1202	1202			
	25	140	"	1187	1192	1195			
	45	160	"	1177	1182	1179			
	1.05	180	"	1162	1165	1167			
	25	200	"	1162	1162	116			
	45	220	"	1155	1147	1155			
	2.05	240	"	1142	1142	1152			
	25	260	"	1135	1135	1142			
	45	280	"	1122	112	1135			
	3.05	300	"	1095	1095	1115			
	15	310	"	1082	1082	1102			

A V ②

DATE	TIME	MIN.	AMP'S	Volts 1315	1670	1696	Temp 1315	1670	1696		
11/9	A.M. 3.25	320	60	1067	1075	1097					
	35	330 (338½)	"	1045 (100)	1055	1087					-338.5
	45	340 (343½)	"	982	102 (100)	1075					-343.5
	55	350 (353)	"	635 50	945	1055					-353.0
	405	360 (366)	"	-235	782	1025 (100)					-366.0
	15	(367) 370	"	—	(50) -265	965	1152	115			-367.0
	18	373	"			925					
	21	376				85					
	24	379				72					
	27	382				537					
	27½	382½				50		O.K		1122	-382.5

11/9/10. Cell # 1315 was cut open for inspection and was found to be intact except for break in grid at lower corner of one plate. No loose or injured tubes or pockets could be found.

Groups were washed in distilled water about 40 hours, then dried over Sunday in drying oven.

Used them for voltage drop test. W.E.H.

DATE	TIME	MIN.	AMP'S
11-27-10	Cell # 16.96 stood idle about 18 days, when it was connected in the right hand of station 18 battery in place of a burnt out C+S.		

DATE	TIME	MIN.	AMP'S

DATE	TIME	MIN.	AMP'S	
4.21.11	PM	Received Five A4 Cells for Ignition Service on launch of S J Ross Jr.		
4.22.11	PM	Cells were tested for height of solution & distilled H_2O added as follows.		

#		
2046	200	CC
2140	197	CC
1792	115	CC
2168	197	CC
2078	195	CC

They were then connected on Board & stood 36 hours over Sunday and then discharged fully

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps				
				1792	2046	2078	2140	2168	1792	2046	2078	2140	2168
	A.M.			Discharge					12				
4-24-11	2.55	Open		134	133	130^{5}	130^{5}	133	78	76	77	77	78
	3.00	0	30	110 (100)	94	92	94	88		-.5			
	.02	2	"	77	80	81	82^{5}	81^{5}					
	.05	5	"	78^{5}	80	80^{5}	82	80^{5}					
	.10	10	"	80^{5}	81	82	81	81					
	.20	20	"	82	82	82	82	81^{7}					
	.30	30	"	82	82	82	82	82					
	.40	40	"	80	80	80^{5}	80^{2}	80^{7}					
	.50	50	"	79	79	79^{7}	79^{2}	79^{7}					
	4.00	60	"	78	78	78	78	78^{2}					
	.10	70	"	×	×	×	×	×					
	20	80	"	74^{2}	72^{5}	74	72^{7}	74^{2}					
	30	90	"	72	66^{7}	70	69	71					
	40	100	"	70	66^{2}	67^{2}	66	66^{5}					
	50	110	"	64	62	63^{2}	62	64^{5}					
	5.00	120	"	65^{7}	56^{5}	58	56^{7}	60					
	10	130	"	63^{5}	52 50	50	52 50	56		90		89	66.5
	13 15	133 138	"	63		56		58					
	20	140	"	(64)		50		56			91	170	
	23	143	-	62		-							73.5
	27	147	-	-	-	-	-	80					

A IV

DATE	TIME	MIN.	AMP'S	Volts					T	T	T	T
	A.M.			1792	2046	2078	2140	2168				
4/24/11.	540	160	30	[illegible]					Oil			
	47	167	"	50					@ E 70	-835		
	A.M.			Charge 13								
	600	0	30	111	120	120	122	118	93	94	955	94-90
	900	3	"						97	96	96	96-95
	1200	6	"						93	95	94	95-94
P.M.	300	9	"		15 hrs.				955	97	976	98-965
	600	12	"						98	100	100	100-99
	900	15	"	182	183	1805	1817	1842	98	100	1005	985 917
				Discharge								
	903	open		1572	1565	1565	1562	1575				
	05	0	30	150	149	148	148	148				
	07	2	"	140	140	1385	1392	140				
	10	5	"	137	137	136	1365	1375				
	15	10	"	135	1345	1342	1342	1345				
	25	20	"	134	1337	1335	133	1338				
	35	30	"	1325	1315	1315	131	1315				
	45	40	"	130	1295	1295	129	1297				
	1005	60	"	1265	126	126	126	1262				
	25	80	"	125	1247	1245	124	125				
	45	100	"	1235	123	123	1225	1237				
	1105	120	"	1217	1215	1215	121	722				

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps				
4/24/11	PM			1792	2046	2078	2140	2168	1	2	3	4	5
	1125	140	30	1202	120	120	1197	1205					
	45	160	"	118	1187	118	1178	119					
4/25/11 A.M.	1205	180	"	1177	117	1175	1162	1177					
	25	200	"	1162	116	116	1155	1165					
	45	220	"	114	1137	114	1122	111					
	1:05	240	"	113	1125	1126	111.7	113					
	25	260	"	1117	1105	111	1095	111					
	35	270	"	—	—	—	107	—					
	45	280	"	1086	1076	1075	106	1075					
	55	290	"	1015	106	106	104	106					
	2:05	300	"	1057	104	104	101 100	104			-152		
	9	304											
	15	310	"	1045	1026	102 100	99	102			-158.5		
	12	317											
	25	320	"	102	100	99.6	96	100			-160	-160	
	35	330	"	100	966	96	92	96		-165			
	45	340	"	975	93	92	86	92					
	55	350	"	93	87	86	77	867					
	3:05	360	"	90	836	805	447	87			-182		
	9	364					30						
	15	370	"	77	767	68		642				101	
	20	375	"					50			-187.5		99
	22½	377.5	"			50				-188.7	101		
	25	380	"	50	64				99	-190			
	30	385	"		50					101	-192.5		

Oil
@ E 60

A IV

DATE	TIME	MIN.	AMP'S	V	V	V	V	V	T	T	T	T
				1792	2046	2078	2140	2168	2	6	8	[illegible]
	AM	Charge #14										
4/25/11	520	0	30	158	155	15[illegible]	1565	1525	905	92	905	90
	820	3	"						88	90	90	90-89½
	1120	6	"						90	91	915	92-905
	P.M. 220	9	"						90	91.5	92	92-90
	520	12	"						98	99.5	98	99-99
	820	15	"	182	183	181	1825	1835	100	1015	101	102-100
	P.M.	Discharge										
	820	Chg		1575	157	1585	157	157				
	25	0	30	148	1465	1446	146	146				
	27	2	"	1405	140	1395	140	140				
	30	5	"	138	1375	137	137	1375				
	35	10	"	136	135	135	1352	1355				
	47	22	"	133	133	1325	1325	133				
	55	30	"	1322	132	1315	1315	132				
	9.05	40	"	130	130	130	130	13.0				
	25	60	"	1262	126	126	126	126				
	45	80	"	1247	125	1245	1245	1245				
	10.05	100	"	1225	1225	1227	1225	123				
	25	120	"	1205	121	1205	1205	121				
	45	140	"	1197	120	120	1195	120				
	11.05	160	"	1185	1192	119	119	1192				

A IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS.				
	P.M		30	1792	2046	2078	2140	2168	1792	2046	2078	2140	2168
4-25-11	1125	150	"	x	x	x	x						
	.45	200	"	116	1175	1165	117	117					
4-26-11	A.M. 12.05	220	"	1145	115	115	115	115	97.5	98	98	96.5-96.5	
	.25	240	"	114	1145	114	1142	115					
	.45	260		112	113	112	1122	112					
	1.05	280	"	110	111	110	1102	111					
	25	300	"	107	1075	107	1065	108					
	35	310	"	1062	1062	1058	106	106					
	45	320	"	1058	105	1045	104	105					
	55	330	"	103	102	102	1005 100	1035				-1665	
	2.05	333 340	"	101 100	100	100	97.5	100				-170	
	15	342 350	"	98	95.5	96	90.5	95.5				-173	
	25	360	"	94.5	91	91	80	90					
	35	370	"	88	87.5	82	62	80					
	36½	370½	"	–	–	–	60	–				97-185.2	
	45	380	"	76	70.5	62	–	62					
	46	381	"	–	–	–	–	60				-1905 99	
	46½	381½	"	–	–	60	–	–			100½	-190.7	
	52	387	"	60	–	–	–	–	98			-193.5	
	52½	387½	"	–	60	–	–	–		97½		-193.7	

Kelly
YK

A IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS			
				1792	2046	2078	2140	2168	2	6	8	0 8
4/26/11	A.M.					Charge #			15			
	1100	0	30	154	1525	1557	157	156	95	96	94	94 95
	700	3	"						87	88	88	88-87
	1000	6	"						87	88	89	89-88
P.M.	100	9	"						92	93	93	94-93
	400	12	"						93	94.5	94	94.5-94
	700	15	"	184	1845	1837	1845	185	94	955	95	96 95
						Discharge						
	703	open		158	157	155	157	1595				
	05	0	30	148	147	1465	144	146				
	07	2	"	1407	140	140	140	1405				
	10	5	"	137	1365	136	136	1367				
	15	10	"	1352	135	1345	135	135				
	25	20	"	133	1337	1325	133	133				
	35	30	"	1315	1312	1312	131	131				
	45	40	"	130	1297	129	1295	1295				
	805	60	"	127	127	1267	127	1272				
	25	80	"	125	125	1247	125	125				
	45	100	"	—	—	—	—	—				
	905	120	"	1217	122	1217	122	122				
	25	140	"	120	120	120	120	120				
	45	160	"	1185	1177	119	1192	1197				
	1005	180	"	118	1185	118	1182	1187	96	95	965	965 95

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps			
				1792	2046	2078	2140	2168	1	2	3	4 5
4/26/11	PM											
	1025	200	30	1167	1177	1167	1175	118				
	45	220	"	116	1165	116	1162	117				
	1105	240	"	1142	1157	1142	115	1157				
	25	260	"	113	114	1125	1135	114				
	45	280	"	111	1117	1102	1105	112				
4/27 AM	1205	300	"	1085	1095	108	108	1097				
	15	310	"	107	1077	106	1062	108				
	25	320	"	106	106	105	1047	106				
	35	330	"	104	1037	103	102	104				
	45	340	"	102	1015	1007	100	102				-⑤ -173 -④ 170 -③ 171.5 -② 172 -① 174
	45	343 344 346 348		100	100	100		100				
	55	350	"	97	98	975	945	98				
	105	360	"	95	93	92	867	935				
	15	370	"	895	87	84	705	86				
	20	375	"				50		91			187.5
	25	380	"	76	76	637		665				
	28½	383½	"			50			101			191.7
	30	385	"					50	100			192.5
	34	389	"	50					99			194.5
	35	390	"		61							
	38	393	"		50				100			196.5

O.K.
Hassall L. Stere
1:42½ AM. 4/27/11

A IV.

DATE	TIME	MIN.	AMP'S	Volts					Temps				
4/27/11				1792	2046	2078	2140	2168	1	2	3	4	5
	AM			Charge #16									
	440	0	30	150	152	155	157	156	85	87	87	84	85
	42	2	"	162	161	161^7	163	162					
	45	5	"	163	162^5	162	164	163^5					
	50	10	"	165	165	164	166	166^7					
	500	20	"	166	167	165	167^7	167^7					
	10	30	"	168	168^8	166^7	169	169^5					
	20	40	"	170	169^9	170	170	170					
	40	60	"	169	169	170	169^5	169^5					
	600	80	"	168^5	168^5	169^5	168	168					
	20	100	"	168	168	168	168	168					
	40	120	"	168	168	168	168	168					
	700	140	"	168	168	168	168	168^2					
	20	160	"	168^5	168	168	168^2	168^2					
	40	180	"	169	168^7	169	168^5	169	88	88	88	87–86^5	
	800	200	"	168	168	168	168	168					
	20	220	"	168	168	168	168^2	168^2					
	40	240	"	169	169	169	169	169					
	900	260	"	170	170	170	170	170^2					
	20	280		171	170^5	170^5	171	171					
	40	300		172	172	172	172	172					
	1000	320		172^2	172^2	172	173	173					
	20	340		173	173	172^5	172^7	173					

A IV.

DATE	TIME	MIN.	AMP'S	Volts					Temps				
	A.M.			1792	2046	2078	2004	2168	1	2	3	4	5
	1040	360	30	174	175	175	176^2	1757					
4/27/11	1100	380	"	177	178	178	180	179					
	20	400	"	180	180	180	182	182					
	40	420	"	181^5	181^7	181	183	182^5		−7 hrs			
	A.57				Discharge								
	1143	ap—	30	156	156	158	156	156					
	45	0	"	146	144	144	144	144					
	47	2	"	138	136^5	136^2	137	137					
	50	5	"	136	135^5	135.2	136	135.2					
	53	10	"	134	133	133.7	134	133.7					
P.M.	1205	20	"	131.8	130.8	131.5	131.2	131					
	25	30	"	129	129	128.2	129	128.5					
	25	40	"	127.7	127	127.5	127.7	127					
	45	60	"	125	125	125	125	125.7					
	105	80	"	122.5	122.5	122.5	122.7	122.5					
	25	100	"	120.5	121	121	121	121.2					
	45	120	"	119.8	120	120	120.2	120.5					
	205	140	"	119	119.7	119.5	119.7	120					
	25	160	"	118.5	118.7	119	119	119.1					
	45	180	"	116.7	117	117	117.7	117.4	90	90	91.5	91.5	9
	305	200	"	115	115.8	115.7	115.8	116					
	25	220	"	114	114	114	114.5	114					
	45	240	"	111	111	111	111.7	111.2					

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps			
	P.M.			1792	2046	2078	2140	2168	.92	.46	.18	.40 — 68
4-27-11.	405	260	30	109.2	109.5	109.7	109.8	113.2				
	15	270	"	108	108	108.5	108.2	107				
	25	280	"	106.5	106	106	106	107				
	35	29[illegible] 298	"	103.7	103.5 (100)	104	103.7 (100)	105.5	– 149 150			
	45 46	300 301	"	100	99	100.2 100	99	101.7	94.5 – 150.5	-97	96	965
	50	305	"					100	– 152.5			– 955
PM				Charge # 17								
	600	0	30	150	152	152	153	153	92	93	925	93 935
	02	2	"	1545	1545	154	155	155				
	05	5	"	158	1582	1575	1585	1585				
	10	10	"	159	1595	155	160	160				
	20	20	"	1635	164	161	165	165				
	30	30	"	167	1679	166	168	1685				
	40	40	"	168	168	1675	168	168				
	700	60	"	167	1667	167	1665	167				
	20	80	"	166	166	166	166	166				
	40	100	"	166	166	166	166	166				
	800	120	"	166	166	166	166	166				
	20	140	"	1662	166	166	166	166				
	40	160	"	166	166	166	166	166				
	900	180	"	1675	1675	167	1675	167				

M IV

DATE	TIME	MIN.	AMP'S	Volts					Temps				
	P.M.			1792	2046	2078	2140	2168	1	2	3	4	5
4-27-11	920	200	30	167	167	167	1672	1672					
	40	220	"	1685	1682	168	1686	1685					
	1000	240	"	170	1697	1692	170	170					
	20	260	"	1702	1702	170	1707	1705					
	40	280	"	172	1727	1722	1725	1725					
	1100	300	"	1.76	1.76	1.752	1.757	1.757					
	20	320	"	1.78	1.78	1.775	1.78	1.78					
	40	340	"	1.80	1.805	1.80	1.812	1.807					
	1200	360	"	1.817	1.82	1.817	1.83	1.825					
4-28-11	A.M. 20	380	"	1.82	1.83	1.825	1.84	1.84					
	40	400	"	1.835	1.84	1.837	1.842	1.842					
	100	420	"	1.84	1.84	1.84	1.842	1.845	88	90	90	90 – 88	
											— Thos		
	A.M.			Discharge									
4-28-11	103	Open		1.575	1.57	1.565	1.50	1.565					
	05	0	30	1.46	1.46	1.457	1.46	1.457					
	07	2	"	1.38	1.375	1.37	1.38	1.377					
	10	5	"	1.36	1.35	1.35	1.357	1.352					
	15	10	"	1.34	1.34	1.337	1.34	1.337					
	25	20	"	1.32	1.317	1.315	1.317	1.317					
	35	30	"	1.30	1.297	1.297	1.30	1.297					
	45	40	"	1.28	1.28	1.28	1.28	1.28					
	205	60	"	1.25	1.255	1.252	1.257	1.257					

A. IV.

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
	A.M.			1792	2046	2078	2140	2168	1792	2046	2078	2140	2168
4-28-11	2.25	80	30	1.237	1.24	1.237	1.24	1.24					
	.45	100	"	1.22	1.22	1.22	1.22	1.22					
	3.05	120	"	1205	121	121	121	121					
	.25	140	"	120	120	120	120	120					
	.45	160	"	119	1195	1195	1195	1197					
TEMPS	4:05	180	"	118	118	118	118	118	90	91	92	91-89.5	
	.25	200	"	1162	1167	116	1162	117					
	45	220	"	115	1157	115	115	1157					
	5.05	240	"	113	1137	113	1137	114					
	25	260	"	1108	111	1105	1105	112					
	45	280	"	1070	1075	1072	1072	1080					
	55	290	"	1057	1045	1047	1047	1059					
	605	300	"	104	104	1037	1025	104					
	12	307	"	100	100	100	100	← 153.5	925	93	94	92	
	15	310	"					100	-155			92	
	A.M.				Charge # 18								
4/28/11	640	0	30	148	1485	149	1485	15	92	93	92	91	90
	42	2	"	154	154	154	1545	154					
	45	5	"	155	155	156	155	1562					
	50	10	"	158	1585	158	1592	159					
	700	20	"	162	1625	161	163	163					
	10	30	"	1657	166	164	166	166					
	20	40	"	167	167	166	1677	1677					

A IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
	A.M.			1792	2046	2078	2140	2168	2	6	8	0	8
4/28/11	740	60	30	166	166	166	166	166					
	800	80	"	165	165	165	165	165					
	20	100	"	166	1657	166	166	166					
	40	120	"	166	166	1662	166	166					
	900	140	"	1665	166	1665	1662	1667					
	20	160	"	167	1677	167	167	167					
	40	180	"	1677	167	167	167	1675					
	1000	200	"	1662	166	1662	166	166	87	88	88	89	87
	20	220	"	169	1682	1687	1687	1687					
	40	240	"	171	1705	1705	171	1705					
	1100	260	"	171	171	1705	1705	1707					
	20	280	"	172	173	1717	172	172					
	40	300	"	175	176	174	1747	175					
	1200	320	"	178	179	178	178	178					
P.M.	20	340	"	178.5	179.-	178	179	179					
	40	360	"	182	182	181.5	182.-	182.-					
	100	380	"	183	183.2	183	183.5	183					
	20	400	"	183.5	183.7	183.5	183.7	183.7					
	40	420	"	183.5	183.5	183.5	184	184	89	90	91	91-89.5	
	P.M.				discharge					Thur			
4-28-11	143	open		156	156	156	156	156					
	45	0	30	146.5	145	145	145	144.5					
	47	2	"	137	136.5	136.5	136.5	136.5					

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps			
	T.M.			1792	2046	2078	2140	2168	92	46	78	40–68
4-28-11	150	5	30	1365	135	134.5	135	135				
	55	10	"	1332	133	1325	133	133				
	2 05	20	"	1312	131	1308	131	131				
	15	30	"	1295	129	1292	129	1295				
	25	40	"	128	128	1277	1278	127.9				
	45	60	"	1267	126	1255	125.5	125.5				
	3 55	80	"	124	124	124	124	124				
	25	100	"	122.5	122.2	122	122	122.5				
	45	120	"	120.7	121	121	121	121				
	4 05	140	"	120	120	1195	1198	120				
	25	160	"	118.2	119	118.5	119	119.5				
	45	180	"	117.7	117.8	117	117.8	118	92.5	93	93	93–92.5
	5-05	200	"	116	116	116	116	116.0				
	25	220	"	114.7	115	114.5	115	115.2				
	45	240	"	113	113	112.7	113	113.5				
	6 05	260	"	110	110	110	110	110.5				
	25	280	"	108	107	107	107	108				
	35	290		106	1045	1045	1045	106				
	45	300		1037	102	1025	1018	103				
	55	312		1.00	1.007	1.01	1.00	1.007	-	15.5		— 15.5
	56½	311.5			100	1.0	-	100		15.5.7		— 155.7

A IV

DATE	TIME	MIN.	AMP'S	Volts					Temps			
4/28/11				1792	2046	2078	2140	2168	1	2	3	4 5
	PM			Charge # 19								
	8.00	0	30	152	152	152	152	152				
	02	2	"	1535	153	154	152	1537				
	05	5	"	156	1565	157	156	1565				
	10	10	"	1575	158	1577	159	1585				
	20	20	"	162	1625	161	163	163				
	30	30	"	165	1655	164	166	166				
	40	40	"	167	167	166	1677	1677				
	9.00	60	"	166	1662	1665	1665	1665				
	20	80	"	1662	1662	167	1665	1665				
	40	100	"	166	1665	166	166	166				
	10.00	120	"	166	1657	166	166	166				
	20	140	"	166	166	166	166	166				
	40	160	"	168	167	1677	1675	1677				
	11.00	180	"	168	1677	168	168	168	88.5	89	87	88 88
	20	200	"	1.68	1.68	1.682	1.682	1.685				
	40	220	"	1.69	1.687	1.692	1.69	1.69				
	12.00	240	"	1.70	1.70	1.70	1.70	1.70				
	20	260	"	1.715	1.717	1.71	1.715	1.717				
	40	280	"	1.73	1.737	1.725	1.73	1.735				
	1.00	300	"	1.75	1.76	1.74	1.745	1.755				
	20	320	"	1.79	1.80	1.78	1.795	1.80				
	40	340	"	1.81	1.82	1.815	1.82	1.827				

A IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
	A.M.		30	1792	2046	2078	2140	2168	1792	2046	2078	2140	2168
4/29/11	2.00	360	"	1.825	1.83	1.825	1.827	1.84					
	20	380	"	1.84	1.84	1.84	1.84	1.842					
	40	400	"	1.84	1.84	1.84	1.84	1.845					
	3.00	420	"	184	184	184	184	184^{5}	90	92	91^{5}	91	90
											-7hr		
	A.M.	Discharge											
	3.03	open	30	156^{5}	156^{2}	156^{2}	156	156^{2}					
	.05	0	.	146	145	144	144^{2}	144					
	.07	2	.	138	137	1.367	137	137					
	.10	5	.	136	1357	135	135	135^{2}					
	.15	10	.	134	134	1338	134	134					
	.25	20	.	132	132	132	132	1319					
	.35	30	.	130	130	130	130	130					
	.45	40	.	128	128	128	128	128					
	4.05	60	.	126	126	126	126	126					
	.25	80	.	124	124	124	124	124^{2}					
	.45	100	.	1227	123	1227	123	123					
	5.05	120	.	1217	1217	1217	1217	122					
	.25	140	.	1207	121	121	121	121					
	.45	160	.	119	1197	119	1195	1197					
	6.05	180	.	118	118	118	118	118^{5}	92	94	94	93^{5}	92
	.25	200	.	1165	117	1165	117	1177					
	7.45	220	.	115^{5}	116	115^{2}	115^{7}	116					

A IV

DATE	TIME	MIN.	AMP'S	VOLTS					TEMPS				
	A.M.			1792	2046	2078	2140	2168	2	6	8	0	8
4/29/11	7.05	240	30	1157	114	11.5^{2}	115^{7}	114					
	25	360	"	111	111^{2}	111	111	112					
	45	280	.	108	108	108	1077	108^{5}					
	55	290		106	106^{2}	106	106	107					
	8.05	300 306½		105	104	104	103 102	105					-153.2
	15	310 312½ 314		102 100	100	100	98	101.5 100					-155 -156.2
	25	320		97	95	94	89^{5}	96					-157
	35	330		89	88	83	66 50	85	-167^{5}				
	40	335											
	45	340		72^{2}	77	55^{7} 50		61	-171	OK	C.F.	1027	
	47	342											
	49	344						50	-172		104		102
	52	347		50					104	-173.5			
	55	350			68								
	59	354			50					105			-177
	A.M.	Charge #20											
4 29 11	10.45	0	30	1.56	1.56	1.57	1.58	1.58	94	97	95.7	95	9.5
	1.45	3	"	—	—	—	—	—	93.5	94.5	95	94.5	93.5
	4.45	6	"	—	—	—	—	—	94	94	95	96	94
	5.45	7		—	—	—	—	—	94	95	96	97	96
	Charge interrupted Stood 15 hours												
	8.45	7	30	1.60	1.602	1.605	1.607	1.612	77.5	77.7	77.7	78	77.5
	10.45	10	"						89.5	90.5	90.2	90.5	89.7
	2.45	18	"						96.5	97	98	98.2	97
Started charge	4.45	15	"	1.832	1.835	1.83	1.84	1.845	96	98	97.7	98	95

F I ②

DATE	TIME	MIN.	AMP'S	1792	2046	2078	2140

4.30 11
5.1.11 AM — Cells were then disconnected from board & connected up in box. The battery was then returned to Ross.

18867A

#18867A is a Special cell consisting of one positive & two negative plates from "A4" cell # 18867 mounted with glass insulators in an A4 Can

It was filled with 1700 CC 25% KOH + 15 g LiOH per liter & after soaking for about 30 hours this was emptied out and cell refilled with 1700 CC 21% KOH + 45 g LiOH (total)

It was then run as follows

F I ②

DATE	TIME	MIN.	AMP'S		
				18867A	
	PM			Charge # 1	
5-4-11.	1010	0	7.5	133	
	1118	1	"	166.2	
5-5-11	A.M. 1210	2	"	165	
	110	3	"	167	765
	210	4	"	1677	
	310	5	"	1.682	
	410	6¼	"	1.697 ×	77
	510	7½	"	1707	
	610	8	"	1717	
	710	9	"	172 ×	
	810	10	"	—	
	910	11	"	1732	
	1010	12	"	1.74 ×	
	1110	13	"	1742	79
	P.M. 1210	14	"	1.745	
	110	15		1745 ×	-15 hrs.
	PM			Discharge	
	113	open		157	795
	15	0	75	1445	
	17	2	"	1365	
	20	5	"	134	

F # ②

DATE	TIME	MIN.	AMP'S	V	T	
	P.M.			18867A		
5-5-11	1.25	10	7.5	131		
	35	20	.	128		
	45	30	.	126		
	55	40	.	1245		
	215	60	.	1217		
	35	80	.	1197		
	55	100	.	1181		
	315	120	.	117		
	35	140	"	1162		
	55	160	"	1157		P. Hewitt
	415	180	"	115		
	35	200	"	114		
	55	220	"	113		
	515	240	"	112		
	35	260	"	111		
	55	280	"	110		
	605	290	"	109 5		
	15	300		108		
	25	310		108		
	35	320		107		
	45	330		107		
	55	340		106		
	705	350		105.7		

H/I ②

DATE	TIME	MIN.	AMP'S	P	J.	
	P.M.			18867A		
5/5/11.	715	360	7.5	105		
	25	370	"	104		
	35	380	"	103		
	45	390	"	102 5		courant of 6 min.
	55	394	"	1025		
	805	404	"	100 5		
	12½	411.5		100		
	15	414	'	100		− 51.7
	25	424	'	987		
	35	434	'	98		
	45	444	'	96		
	55	454	.	94		
	905	464	.	905		OK H.G.S.
	15	474	'	81		
	20	479		50		− 60
	25	484	.	02	78	

Stood idle 58 hours over Saturday
and Sunday

Change #2

DATE	TIME	MIN.	AMP'S	P	J.
	A.M.				
5-8-11	7.30	0	7.5	1.162	74
	8.30	1	,	1.66	
	9.30	2	,	1.72	
	10.30	3	.	1.732	79

HI ②

DATE	TIME	MIN.	AMP'S	Volts	Temps	
	A.M.			18867 A		
5-8-11	11.30	4	7.5	1735		
	P.M. 12.30	5	"	174		
	1.30	6	"	1747	81	
	2.30	7	"	1758		
	3.30	8	"	1765		
	4.30	9	"	1762	80	
	5.30	10	"	1765		
	6.30	11	"	177		
	7.30	12	"	177	81	
	8.30	13	"	177		
	9.30	14	"	1765		
	10.30	15	"	176	82	— 15 hrs
	PM					Discharge.
	10.23	open		167		
	35	0	7.5	1465		
	37	2	"	138		
	40	5	"	134		
	45	10	"	132		
	55	20	"	129		
	11.05	30	"	127		
	15	40	"	124		
	35	60	"	123		
	55	80	"	120		
	12.15	100	"	118		

HI ②

DATE	TIME	MIN.	AMP'S	R.	J.	
	A.M.			18867	A	
5/9/11	1235	120	7.5	18		
	55	140	"	1157		
	115	160	"	115		
	35	180	"	114	?	
	55	200	"	114		
	215	220	"	113		
	35	240	"	1122		
	55	260	"	112		
	315	280	"	1117		
	25	290	"	1115		
	35	300	"	1112		
	45	310	"	✓		
	55	320	"	1102		?
	405	334	"	1102		
	16	341	"	110		?
	25	350	"	110		
	35	360	"	1097		
	48	378	"	1087		
	05	380	"	108	}	?
	510	395	"	108		
	15	400	"	108		
	35	420	"	1065		
	55	440	"	106		
	615	460	"	104		

FI ②

DATE	TIME	MIN.	AMP'S	V	T	
	AM			18867 A		
5/9/11	635	480	7.5	1015		— 61.2
	45	490	"	100		
	55	500	"	98		? OK
	705	510	"	96		
	15	520	"	922		
	25	530	"	86		— 67.3
	30	539	"	50	815	
	AM		76			Charge #3
	8,30	0	,	150	80	
	9,30	1	,	1655		
	10,30	2	,	1705		
	11,30	3	,	1707	80	
	PM 12,30	4	,	172		
	1.30	5	,	173		
	2.30	6	,	175	815	
	3.30	7	,	1777		
	4.30	8	,	1765		
	5.30	9	,	1765	81	
	6.30	10	,	177.7		
	7.30	11	,	178		
	8.30	12	,	178	82	
	9.30	13	,	178.5		

F I ②

DATE	TIME	MIN.	AMP'S	V	T	
	PM		75	18867 A		
5-9-11	1030	14	,	180.		
	11.30	15	,	1787	79.5	— 15 hrs
	PM					Discharge
5-9-11	1133	open		138		
	35	0	7.5	146		
	37	2	"	134.2		
	40	3	"	-		
	45	10	"	131.5		
	55	20	"	129		
5 10.11	AM 1205	30	"	126.7		
	15	40	'	126		
	35	60	·	124		
	55	80	·	120.2		
	115	100	·	119.5		
	35	120	·	118		
	55	140	·	117		
	215	160	·	116.2	79	
	35	180	·	116.2		
	55	200	"	114.7		
	315	220	·	114		
	35	241	·	1137		
	55	260	'	1182		
	415	280		1135		

F I ②

DATE	TIME	MIN.	AMP'S	V	T	
	AM			11167A		
5-10.11	4.38	303	7.0	1122		
	48	313	"	112		
	55	320	"	1117		
	505	330	"	111		
	15	340	"	111	82	
	25	350	"	1107		
	35	360	"	1105		
	45	370	"	110		
	55	380	"	110		
	605	390	"	110		
	15	400	"	1097		
	25	410	"	109		
	35	420	"	1087		
	45	430	"	108		
	55	440	"	1077		
	7.05	450	"	1065		POK
	15	460	"	1067		
	25	470	"	1057		
	35	480	"	1052		
	45	490	"	1047		
	55	500	"	1037		
	805	510	"	102 1020		-65.0
	15	520	"	997	83	

F I ②

DATE	TIME	MIN.	AMP'S	V	T	
	AM		7.5	188	67.4	
5.10.11	8.25	530	"	92		
	32	537	"	50		?OK -67.0
AM						Charge 4
5-10-11	9.30	0	7.5	155		
	10.30	1	"	167.2	86	
	11.30	2	"	169		? Temp
PM	12.30	3	"	169		
	1.30	4	"	170.2		
	2.30	5	"	171		
	3.30	6	"	173.5		
	4.30	7	"	174	90	
	5.30	8	"	174.5		
	6.30	9	"	176		? Temp
	7.30	10	"	176		
	8.30	11	"	177		
	9.30	12	"	178	87	
	10.30	13	"	179.7		
	11.30	14	"	180.5		
AM	12.30	15	"	181.7	84	
5-11-11						

over

A I (2a)

DATE	TIME	MIN.	AMP'S	V	T	
				18867 A		
	A.M.					Discharge
5-11-11.	1233	open		15.9		
	35	0	7.5	146.2		
	37	2	"	1398		
	40	5	"	135		
	45	10	"	132.2		
	53	20	"	130		
	1 05	30	"	128		
	15	40	"	127		
	35	60	"	123.8		
	55	80	"	1210		
	215	100	"	120		
	35	120	"	1182		
	55	140	"	×		
	3.15	160	"	1165		
	35	180	"	115	80	
	55	200	"	1135		
	415	220	"	1145		
	40	240	"	1132		
	55	260	"	110		
	5-15	280		1122		
	35	300		112		
	49	314		112		

A I ②

DATE	TIME	MIN.	AMP'S	V	T	
	AM			18867-A		
5-11-11	555	320	7.5	1117		
	600	330	"	1107		
	15	340	"	1105		
	25	350	"	1105		
	35	362	"	1102	78	
	49	374	"	110		
	55	380	"	110		
	712	397	"	110		
	15	400	"	1097		
	25	410	"	1085		
	35	420	"	1082		
	48	433	"	1078		
	55	440	"	1077		
	806	451	"	1072		
	16	461	"	1065		
	25	470	"	106		
	35	480	"	1047		
	45	490	"	104		
	55	500		102		
	902	507	"	100		— 63.4
	905	510	"	99		
	15	520	"	90		
	23	528	"	50	786	" — 66.0

F I ②

Charge #5

DATE	TIME	MIN.	AMP'S	V	T
A.M.			75	188	67 A
5-11-11	10.30	0	"	156	80.5
	11.30	1	"	167.7	
PM	12.30	2	"	167.8	
	1.30	3	"	167	85 ×
	2.30	4	"	1682	
	3.30	5	"	1705	
	4.30	6	"	1717	92
	5.30	7	"	173	
	6.30	8	"	173	
	7.30	9	"	172	94
	8.30	10	"	175	
	9 30	11	"	1779	
	10.30	12	"	180	87
	11.30	13	"	181^{5}	
	12.30	14	"	182	
	2.30	16	"	182	×
	A.M				
	2.33	open		159	
	35	0	75	147	
	37	2	"	143	
	40	5	"	134	
	45	10	"	132^{5}	

1 hr. overcharge.
all cells came down
such as a VI. ~~and this~~
was forgotten
— 16 hrs

Discharge

T I ②

DATE	TIME	MIN.	AMP'S	V	T
	A.M.			188	67 A.
5/12/11	255	20	7.5	130	
	305	30	"	128	
	15	40	"	126	
	35	60	"	1242	
	55	80	"	122	
	415	100	"	120	
	35	120	"	1187	
	55	140	"	118	
	515	160	"	117	
	35	180	"	116	84
	55	200	"	116	
	615	220	"	115	
	35	240	"	1145	
	55	260	"	114	
	715	280	"	113	
	35	300	"	1122	
	55	320	"	112	
	805	330	"	112	
	15	340	"	1118	
	25	350	"	1117	
	35	360	"	1113	
	45	370	"	1113	
	55	380	"	111	

F I ②

DATE	TIME	MIN.	AMP'S	V	T	
AM.				18867A		
5-12-11	9.05	390	7.5	111		
	25	410	"	1105		
	45	430	"	1095		
	55	440	"	109		
	10.05	450	"	1085		
	15	460	"	108		
	25	470	"	107		
	35	480	"	1054		
	45	490	"	1042		
	55	500 506	"	1023 (100)		-63.2
	11.05	510	"	98		
	15	520	"	915		
	14½	523½	-	50	47	-65.4
PM						Charge #6
	1250	1	7.5	155	87	
	52	2	.	156		
	55	5	-	1572		
	100	10	-	—		
	10	20	-	1605		
	20	30	-	1625		
	30	40	-	164		
	50	60	-	167		

F I ②

DATE	TIME	MIN.	AMP'S	V.	J.	
5/12/11	PM			188674.		
	210	80	75	1687		
	30	100	-	1685		
	50	120	-	1677		
	310	140	-	167		
	30	160	-	1665		
	50	180	-	167		
	410	200	-	1675		
	30	220	-	168		
	50	240	-	168		
	✓10	260	-	—		
	30	280	-	170		
	50	300	-	1705		
	610	320	-	171		
	30	340		1715		
	50	360		172		
	710	380	"	1725		
	30	400	"	173		
	50	420	"	174		-7hrs.
5/13/11	AM			Discharge.		
	7.52	open		185		
	7.45	0	7.5	144		
	55	8	"	1385		

F 1 (2)

DATE	TIME	MIN.	AMP'S	V.	T.
5/12/11	P.M.			18867 A	
	8:	5	7.5	131.5	
	5	10	"	132	
	15	20	"	120	
	25	30	"	127	
	35	40	"	125.8	
	55	60	"	123.7	
	9: 15	80	"	122	
	35	100	"	120.5	
	55	120	"	119.5	
	10:15	140	"	119	
	35	160	"	118	
	55	180	"	117	
	11:15	200	"	116	
	35	220	"	115	
	55	240	"	x	
	A.M. 12.09	254	"	112	
	15	260	"	113	
	25	270	"	x	
	35	280	"	113	
	45	290	"	112.2	87.5
	55	300		112	
	1.05	310		112	
	15	320		111	
	35				

FI ②

DATE	TIME	MIN.	AMP'S	V	T	
	HM			18867A		
5/13/11	125	330	7.5			
	35	340	"			
	48	353	"	109		
	55	360	"	107		45.6
		365		(101)	(90)	=46
	205	370 368	"	.832	87	-46.2

The Cell will now stand till # 18867 B, which is similar in all respects except it has rubber insulation instead of glass has had the same number of runs when the 2 will run in series.

HM 18867 B ?

5.12.11 1.00 1730 C.C. 25 % KOH + 15 g LiOH per liter put into cell, & plates allowed to soak 33 hours.

P.M.

5.14.11 1.00 This was then emptied & renewed with 900 C.C. 21% KOH + 50 g LiOH per liter and 800 C.C. 21% KOH straight Total 1,700 C.C.

Cell then stood 2 hours and was run as follows